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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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09/787,021

04/18/2001

Naoyuki Kobayashi

HST10112PUSA

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12/28/2004

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EXAMINER

LEADER, WILLIAM T

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/787,021

Applicant(s)

KOBAYASHI ET AL.

Examiner

William T. Leader

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5-8 and 11-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5-8 and 11-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Receipt of the papers filed on October 7, 2004, is acknowledged. Claims 1, 5-8 and 11-25 are pending.
2. The amendment to the claims is deemed to have overcome the rejection under 35 U.S.C. 112, first paragraph.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 103*

4. Claims 1, 5-8 and 11-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sonoda et al (4,874,480) in view of Skimakura et al (5,348,640), Witte (4,904,352) and Bjerrum et al (WO 98/09006) for the reasons of record and in view of the following comments.
5. Applicant's Remarks have been carefully considered but are not deemed to be persuasive. At page 10 of the Remarks, applicant argues that there is a distinction among those skilled in the art between ferrous and non-ferrous materials. Applicant notes that in treating titanium no coating will form without the electrolytic process while in the case of iron-based materials, the phosphate reaction will occur naturally, and concludes that there is a clear distinction between the different mechanisms. While this observation may be correct, the pertinent

question is what the Sonoda et al patent suggests to one of ordinary skill in the art. The formulas given by Sonoda et al are not limited to ferrous metals. In particular, the formula at column 3, lines 57 is written broadly using "Me" to indicate a metal. This formula applies to both ferrous and non-ferrous metals. One of ordinary skill in the art would recognize that the teaching of the Sonoda et al patent, taken as a whole, is not limited to titanium.

6. At page 11 of the Remarks, applicant states that the teachings of ways to cold work steel are not transferable to titanium and titanium alloys, and additionally adds "and vice-versa". Applicant's argument that the teaching with respect to titanium is not transferable to steel has been previously addressed. See paragraph 13, page 9 of the office action mailed October 31, 2003.

7. At the bottom of page 11 to page 12 applicant argues that the range of 6-20 grams of film per square meter of metal surface is critical. This argument is not convincing. Sonoda et al teaches the application of a zinc phosphate film in the range of 2-20 grams per square meter (column 2, lines 56-57). In example 1 of Sonoda, the coating film weight was about 10 grams per square meter. This value falls well within applicant's claimed range. Choice of the subrange of 6-20 from within the broader range of 2-20 disclosed by Sonoda et al would have been a matter of routine optimization based on principles recognized in the art. As observed in the previous office action, Bjerrum et al discloses that the phosphate layer should have

a thickness appropriate for cold forming (page 9, lines 18-19). Applicant argues that the criticality of the claimed range is demonstrated by comparative examples included in the specification and points to (CD) 1-7, 9, 11-14 and (CE) 7, 8, 10, 15 and 16. Reference to pages 16-17 of the specification, where results of the experiments performed by applicant are tabulated, shows that (CE) 2, 3, 7 and 9 all have coating weights that fall within applicant's claimed range but produce results which applicant indicates are not desirable. Thus, the comparative examples are not considered to demonstrate unexpected results of the claimed range of coating weight.

8. At the bottom of page 12 of the Remarks, applicant states that "sludge formation is not discussed in Sonoda et al." This statement is not accurate. Sonoda et al explains that by using cathodic electrolysis, no etching of the substrate takes place, and there is no eluted metal present in the solution. Control of the conversion coating solution is maintained over long periods of time as there is *no formation of sludge* produced by eluted metal. See column 4, lines 33-41. Thus, Sonoda et al does address the issue of sludge formation.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WL

William Leader  
December 20, 2004

ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700